



AMENDMENT TO THE CLAIMS

Claim 1. (Cancelled)

2. (Previously Presented) A low noise amplifier (LNA) circuit for use in a mobile communications device, comprising:

an amplification circuit operable to receive a radio frequency (RF) input signal and apply a gain to the RF input signal to generate a radio frequency (RF) output signal, the amplification circuit including a degeneration inductor for improving the linearity of the amplification circuit;

a bypass switching network operable to switch the LNA between a high-gain mode and a low-gain mode, wherein the gain applied to the RF input signal in high-gain mode is greater than the gain applied to the RF input signal in low-gain mode; and

an output impedance matching inductor coupled to the RF output signal;

the output impedance matching inductor being fabricated on a substrate material in proximity to the degeneration inductor, wherein the polarities of the output impedance matching inductor and the degeneration inductor are selected to induce a negative feedback in the degeneration inductor.

3. (Previously Presented) The LNA circuit of claim 2, wherein the amplification circuit applies zero gain to the RF input signal while the LNA is in the low-gain mode.

4. (Previously Presented) The LNA circuit of claim 2, wherein the output impedance matching inductor is fabricated in a first winding pattern and the degeneration inductor is fabricated in a



second winding pattern, the first winding pattern winding in an opposite direction as the second winding pattern.

5. (Previously Presented) The LNA circuit of claim 4, wherein the first and second winding patterns are octagonal spiral patterns.

6. (Previously Presented) The LNA circuit of claim 4, wherein the first and second winding patterns are square spiral patterns.

7. (Previously Presented) The LNA circuit of claim 2, further comprising:

a match adjustment circuit coupled to the bypass switching network and operable to couple the RF input signal to an impedance when the LNA is in the low-gain mode.

8. (Previously Presented) The LNA circuit of claim 3, wherein the bypass switching network is coupled between the RF input signal and the RF output signal and is operable to bypass the amplification circuit when the LNA is in low-gain mode coupling the RF input signal to the RF output signal.

9. (Previously Presented) The LNA circuit of claim 2, wherein the amplification circuit includes a transistor and wherein the degeneration inductor is coupled between a current-carrying terminal of the transistor and a ground potential.



10. (Previously Presented) A mobile communications device having a staged amplification sub-system, wherein at least one stage of the staged amplification sub-system includes a low noise amplifier circuit (LNA), the LNA circuit comprising:

an amplification circuit operable to receive a radio frequency (RF) input signal and apply a gain to generate an RF output signal;

a bypass switching network coupled between the RF input signal and the RF output signal and configured to bypass the amplification circuit when the LNA is in a low-gain mode by coupling the RF input signal to the RF output signal;

a match adjustment circuit coupled to the bypass switching network and operable to couple the RF input signal to an impedance when the LNA is in the low-gain mode; and

a biasing network coupled to the amplification circuit and operable to control the gain applied by the amplification circuit, the biasing network forming a current mirror with the amplification circuit.

11. (Currently Amended) The mobile communications device of ~~claim 9~~ claim 10, wherein the biasing network is disabled when the LNA is in the low-gain mode.

12. (Currently Amended) The mobile communications device of ~~claim 9~~ claim 10, wherein the LNA circuit further comprises an input-matching impedance coupled in series with the RF input signal.

13. (Currently Amended) The mobile communications device of ~~claim 9~~ claim 10, wherein the LNA circuit further comprises an output-matching impedance coupled to the RF output signal.



14. (Currently Amended) The mobile communications device of ~~claim 9~~ claim 10, wherein the amplification circuit comprises a transistor.

15. (New) The mobile communications device of ~~claim 13~~ claim 14, wherein the amplification circuit further comprises a degeneration inductor coupled between a current-carrying terminal of the transistor and a ground potential.